

**REMARKS**

The Office Action mailed September 22, 2004, has been received and reviewed. Claims 38-52 are currently pending in the application. Claims 38-52 stand rejected. Applicants have amended claims 38, 40-42, and 45-47 and respectfully request reconsideration of the application as amended herein.

**35 U.S.C. § 102(e) Anticipation Rejections**

**Anticipation Rejection Based on U.S. Patent No. 6,514,566 to Mann *et al.***

Claims 38-52 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,514,566 to Mann *et al.* ("Mann"). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Mann discloses an ion processing element that includes a substrate impregnated with a composite medium. Column 7, lines 31-32. The substrate is porous and is formed from a fibrous material, such as fibrous glass, Teflon<sup>®</sup>, or paper. Column 10, lines 29-41. Since the substrate is porous, a fluid is able to easily flow through the ion processing element, allowing the ion processing element to be used in high flow rate applications. Column 9, lines 17-35. The composite medium includes a matrix and at least one active component. Column 7, lines 32-37. The ion processing element is formed by combining the matrix and the active component to form a composite medium solution. Column 11, lines 24-27. The composite medium solution is flowed through the substrate, impregnating the substrate with the composite medium. Column 11, lines 48-57. Solvent in the composite medium solution is then removed or diluted, causing the composite medium to solidify. Column 11, lines 57-61 and column 12, lines 5-8. The resulting ion processing element has the composite medium disposed in the substrate. Column 12, lines 9-11.

As amended, claim 38 recites a column assembly for facilitating substantial removal of at least one constituent of a fluid stream passing through the column assembly. The column assembly consists essentially of a column housing and a composite medium. The column housing defines a chamber and has column housing inlet and outlet connections in fluid communication with the chamber. The composite medium is disposed in the chamber, wherein the composite medium comprises a plurality of discrete particles arranged to define a plurality of interstitial regions therebetween. Each of the plurality of discrete particles comprises a porous matrix material that comprises a polymer and at least one active component supported by the porous matrix material. The at least one active component is selected from the group consisting of crystalline silicotitanate, carbon, and carbamoyl phosphine oxides.

Mann does not anticipate claim 38 because Mann does not expressly or inherently describe that its ion processing element consists essentially of a column housing and a composite medium. As acknowledged by the Examiner in the previous Office Action, the system in Mann includes a substrate into which the composite medium is impregnated. Office Action of April 8, 2004, p. 2. Since Mann utilizes such a substrate, Mann does not expressly or inherently describe a column assembly that consists essentially of the column housing and the composite medium, as recited in claim 38.

Since Mann does not expressly or inherently describe each and every limitation of claim 38, the anticipation rejection of claim 38 is improper and should be withdrawn.

Claims 39-41, 49, and 50 are allowable, *inter alia*, as depending from claim 38, which is allowable.

As amended, claim 42 recites an ion processing system suitable for facilitating removal of at least one constituent of a fluid stream passing through the ion processing system. The ion processing system comprises a column assembly that consists essentially of a column housing and a composite medium. The column housing defines a chamber and has column housing inlet and outlet connections in fluid communication with the chamber. The composite medium is disposed in the chamber, wherein the composite medium comprises a plurality of discrete particles arranged to define a plurality of interstitial regions therebetween. Each of the plurality of discrete particles comprises a porous matrix material that comprises polyacrylonitrile and at

least one organic active component supported by the porous matrix material. The organic active component is selected from the group consisting of crystalline silicotitanate, carbon, and carbamoyl phosphine oxides. Column inlet and column outlet piping is in fluid communication with the column assembly.

Mann does not anticipate claim 42 for substantially the same reasons as discussed above for claim 38. Specifically, Mann does not expressly or inherently describe an ion processing system that comprises a column assembly that consists essentially of a column housing and a composite medium.

Since Mann does not expressly or inherently describe each and every limitation of claim 42, the anticipation rejection of claim 42 is improper and should be withdrawn.

Claims 43-48, 51, and 52 are allowable, *inter alia*, as depending from claim 42, which is allowable.

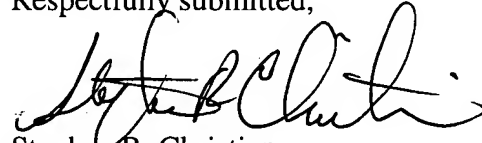
**ENTRY OF AMENDMENTS**

The amendments to claims 38, 40-42, and 45-47 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add new matter to the application.

**CONCLUSION**

Claims 38-52 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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